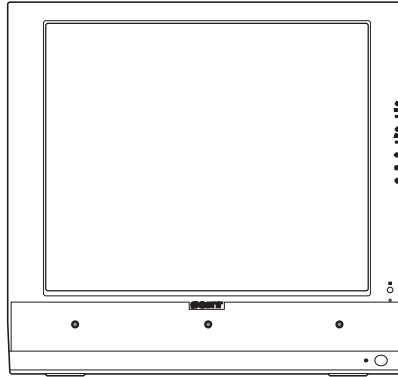


MFM-HT75W/HT95

SERVICE MANUAL

US Model
Canadian Model
AEP Model
E Model



TFT LCD COLOR COMPUTER DISPLAY

SONY®

CONTENTS

SPECIFICATIONS	2	DISASSEMBLY	13
PRECAUTIONS.....	3	SERVICE OSD	14
TIMING CHART	7	EXPLODED VIEW.....	15
OPERATING INSTRUCTIONS	10	EXPLODED VIEW PARTS LIST	16

SPECIFICATIONS

1. LCD CHARACTERISTICS

Type	: TFT Color LCD Module
Size	: 17 inch (MFM-HT75W) 19 inch (MFM-HT95)
Pixel Pitch	: 0.2895(H) x 0.2895(V) (MFM-HT75W) 0.294 (H) x 0.294 (V) (MFM-HT95)
Color Depth	: 16.2M colors (MFM-HT75W) 16.7M colors (MFM-HT95)
Electrical Interface	: LVDS
Surface Treatment	: Clear Black, Anti-Static, Non diffusing
Operating Mode	: Normally Black
Backlight Unit	: 4CCFL(MFM-HT75W) 6CCFL(MFM-HT95)

2. OPTICAL CHARACTERISTICS

2-1. Viewing Angle by Contrast Ratio	10
MFM-HT75W	: $\pm 85^\circ$ Typical
MFM-HT95	: $\pm 89^\circ$ Typical
2-2. Luminance	: 450min(Typ)
2-3. Contrast Ratio	: 800 : 1 (MFM-HT75W) 600 : 1 (MFM-HT95)

3. SIGNAL (Refer to the Timing Chart)

3-1. Sync Signal	
• Type	: Separate Sync, SOG (Sync On Green) Composite Sync, Digital
3-2. Video Input Signal	
1) Type	: R, G, B Analog
2) Voltage Level	: 0~0.71 V
a) Color 0, 0	: 0 Vp-p
b) Color 7, 0	: 0.467 Vp-p
c) Color 15, 0	: 0.714 Vp-p
3) Input Impedance	: 75
3-3. Operating Frequency	
(MFM-HT75W)	
Horizontal	: 28 ~ 69kHz (Digital: ~48kHz)
Vertical	: 48 ~ 85Hz (Digital: 60Hz)
(MFM-HT95)	
Horizontal	: 28 ~ 86kHz (Digital: ~64kHz)
Vertical	: 48 ~ 85Hz (Digital: 60Hz), 1280x1024 48 ~ 75Hz (Digital: 60Hz), 1280x1024

4. Max. Resolution

Analog	: 1280 x 1024 / 75Hz
DVI Analog/ Digital	: 1280 x 768 / 60Hz(MFM-HT75W) 1280 x 1024/ 60Hz(MFM-HT95)

5. POWER SUPPLY

5-1. Power	: AC 100~240V, 50/60Hz, 1.0A
5-2. Power Consumption	

MODE (100/50Hz, 240V/60Hz)	H/V SYNC	VIDEO	POWER CONSUMPTION	LED COLOR
POWER ON (NORMAL)	ON/ON	ACTIVE	less than 68 W(MFM-HT-75W) less than 74 W(MFM-HT-95)	GREEN
STAND BY	OFF/ON	OFF	less than 1.2 W	AMBER
SUSPEND	ON/OFF	OFF		
DPMS OFF	OFF/OFF	OFF		
POWER S/W OFF	-	-	less than 1.2 W	RED

6. ENVIRONMENT

6-1. Operating Temperature	: 5°C~35°C
6-2. Relative Humidity	: 10%~80%

7. DIMENSIONS (with TILT/SWIVEL) (MFM-HT75W)

Width	: 451mm
Depth	: 176 mm
Height	: 353.5 mm

(MFM-HT95)

Width	: 467mm
Depth	: 185 mm
Height	: 437 mm

8. WEIGHT (with TILT/SWIVEL)

(MFM-HT75W)

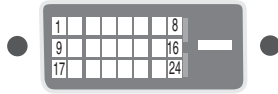
Net. Weight	: 6.3kg
Gross Weight	: 9.28kg

(MFM-HT95)

Net. Weight	: 7.8kg
Gross Weight	: 11.25kg

Signal Connector Pin Assignment

• DVI-D Connector



Pin	Signal (DVI-D)	Pin	Signal (DVI-D)
1	T. M. D. S. Data2-	16	Hot Plug Detect
2	T. M. D. S. Data2+	17	T. M. D. S. Data0-
3	T. M. D. S. Data2/4 Shield	18	T. M. D. S. Data0+
4	T. M. D. S. Data4-	19	T. M. D. S. Data0/5 Shield
5	T. M. D. S. Data4+	20	T. M. D. S. Data5-
6	DDC Clock	21	T. M. D. S. Data5+
7	DDC Data	22	T. M. D. S. Clock Shield
8	Analog Vertical Sync.	23	T. M. D. S. Clock+
9	T. M. D. S. Data1-	24	T. M. D. S. Clock-
10	T. M. D. S. Data1+		
11	T. M. D. S. Data1/3 Shield		
12	T. M. D. S. Data3-		
13	T. M. D. S. Data3+		
14	+5V Power		
15	Ground (return for +5V, H. Sync. and V. Sync.)		

T. M. D. S. (Transition Minimized Differential Signaling)

PRECAUTION

WARNING FOR THE SAFETY-RELATED COMPONENT.

- There are some special components used in LCD monitor that are important for safety. **These parts are marked  on the schematic diagram and the replacement parts list.** It is essential that these critical parts should be replaced with the manufacturer's specified parts to prevent electric shock, fire or other hazard.
- Do not modify original design without obtaining written permission from manufacturer or you will void the original parts and labor guarantee.

TAKE CARE DURING HANDLING THE LCD MODULE WITH BACKLIGHT UNIT.

- Must mount the module using mounting holes arranged in four corners.
- Do not press on the panel, edge of the frame strongly or electric shock as this will result in damage to the screen.
- Do not scratch or press on the panel with any sharp objects, such as pencil or pen as this may result in damage to the panel.
- Protect the module from the ESD as it may damage the electronic circuit (C-MOS).
- Make certain that treatment person's body are grounded through wrist band.
- Do not leave the module in high temperature and in areas of high humidity for a long time.
- The module not be exposed to the direct sunlight.
- Avoid contact with water as it may a short circuit within the module.
- If the surface of panel become dirty, please wipe it off with a softmaterial. (Cleaning with a dirty or rough cloth may damage the panel.)

CAUTION

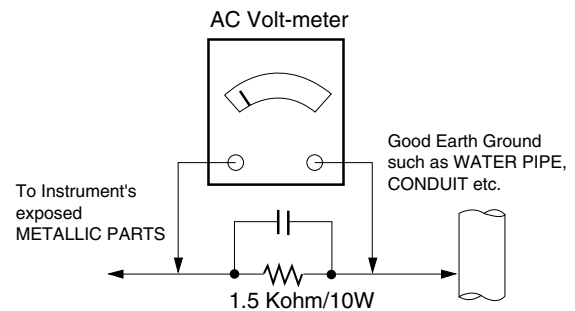
Please use only a plastic screwdriver to protect yourself from shock hazard during service operation.

WARNING

BE CAREFUL ELECTRIC SHOCK !

- If you want to replace with the new backlight (CCFL) or inverter circuit, must disconnect the AC adapter because high voltage appears at inverter circuit about 650Vrms.
- Handle with care wires or connectors of the inverter circuit. If the wires are pressed cause short and may burn or take fire.

Leakage Current Hot Check Circuit



SERVICING PRECAUTIONS

CAUTION: Before servicing receivers covered by this service manual and its supplements and addenda, read and follow the **SAFETY PRECAUTIONS** on page 3 of this publication.

NOTE: If unforeseen circumstances create conflict between the following servicing precautions and any of the safety precautions on page 3 of this publication, always follow the safety precautions. Remember: Safety First.

General Servicing Precautions

1. Always unplug the receiver AC power cord from the AC power source before;
 - a. Removing or reinstalling any component, circuit board module or any other receiver assembly.
 - b. Disconnecting or reconnecting any receiver electrical plug or other electrical connection.
 - c. Connecting a test substitute in parallel with an electrolytic capacitor in the receiver.

CAUTION: A wrong part substitution or incorrect polarity installation of electrolytic capacitors may result in an explosion hazard.

- d. Discharging the picture tube anode.
2. Test high voltage only by measuring it with an appropriate high voltage meter or other voltage measuring device (DVM, FETVOM, etc) equipped with a suitable high voltage probe.
Do not test high voltage by "drawing an arc".
3. Discharge the picture tube anode only by (a) first connecting one end of an insulated clip lead to the degaussing or kine aquadag grounding system shield at the point where the picture tube socket ground lead is connected, and then (b) touch the other end of the insulated clip lead to the picture tube anode button, using an insulating handle to avoid personal contact with high voltage.
4. Do not spray chemicals on or near this receiver or any of its assemblies.
5. Unless specified otherwise in this service manual, clean electrical contacts only by applying the following mixture to the contacts with a pipe cleaner, cotton-tipped stick or comparable non-abrasive applicator; 10% (by volume) Acetone and 90% (by volume) isopropyl alcohol (90%-99% strength)
CAUTION: This is a flammable mixture.
Unless specified otherwise in this service manual, lubrication of contacts is not required.
6. Do not defeat any plug/socket B+ voltage interlocks with which receivers covered by this service manual might be equipped.
7. Do not apply AC power to this instrument and/or any of its electrical assemblies unless all solid-state device heat sinks are correctly installed.
8. Always connect the test receiver ground lead to the receiver chassis ground before connecting the test receiver positive lead.
Always remove the test receiver ground lead last.

9. Use with this receiver only the test fixtures specified in this service manual.

CAUTION: Do not connect the test fixture ground strap to any heat sink in this receiver.

Electrostatically Sensitive (ES) Devices

Some semiconductor (solid-state) devices can be damaged easily by static electricity. Such components commonly are called *Electrostatically Sensitive (ES) Devices*. Examples of typical ES devices are integrated circuits and some field-effect transistors and semiconductor "chip" components. The following techniques should be used to help reduce the incidence of component damage caused by static by static electricity.

1. Immediately before handling any semiconductor component or semiconductor-equipped assembly, drain off any electrostatic charge on your body by touching a known earth ground. Alternatively, obtain and wear a commercially available discharging wrist strap device, which should be removed to prevent potential shock reasons prior to applying power to the unit under test.
2. After removing an electrical assembly equipped with ES devices, place the assembly on a conductive surface such as aluminum foil, to prevent electrostatic charge buildup or exposure of the assembly.
3. Use only a grounded-tip soldering iron to solder or unsolder ES devices.
4. Use only an anti-static type solder removal device. Some solder removal devices not classified as "anti-static" can generate electrical charges sufficient to damage ES devices.
5. Do not use freon-propelled chemicals. These can generate electrical charges sufficient to damage ES devices.
6. Do not remove a replacement ES device from its protective package until immediately before you are ready to install it. (Most replacement ES devices are packaged with leads electrically shorted together by conductive foam, aluminum foil or comparable conductive material).
7. Immediately before removing the protective material from the leads of a replacement ES device, touch the protective material to the chassis or circuit assembly into which the device will be installed.
CAUTION: Be sure no power is applied to the chassis or circuit, and observe all other safety precautions.
8. Minimize bodily motions when handling unpackaged replacement ES devices. (Otherwise harmless motion such as the brushing together of your clothes fabric or the lifting of your foot from a carpeted floor can generate static electricity sufficient to damage an ES device.)

General Soldering Guidelines

1. Use a grounded-tip, low-wattage soldering iron and appropriate tip size and shape that will maintain tip temperature within the range of 500°F to 600°F.
2. Use an appropriate gauge of RMA resin-core solder composed of 60 parts tin/40 parts lead.
3. Keep the soldering iron tip clean and well tinned.
4. Thoroughly clean the surfaces to be soldered. Use a small wire-bristle (0.5 inch, or 1.25cm) brush with a metal handle.

Do not use freon-propelled spray-on cleaners.

5. Use the following unsoldering technique
 - a. Allow the soldering iron tip to reach normal temperature.
(500°F to 600°F)
 - b. Heat the component lead until the solder melts.
 - c. Quickly draw the melted solder with an anti-static, suction-type solder removal device or with solder braid.

CAUTION: Work quickly to avoid overheating the circuitboard printed foil.

6. Use the following soldering technique.
 - a. Allow the soldering iron tip to reach a normal temperature (500°F to 600°F)
 - b. First, hold the soldering iron tip and solder the strand against the component lead until the solder melts.
 - c. Quickly move the soldering iron tip to the junction of the component lead and the printed circuit foil, and hold it there only until the solder flows onto and around both the component lead and the foil.

CAUTION: Work quickly to avoid overheating the circuit board printed foil.

- d. Closely inspect the solder area and remove any excess or splashed solder with a small wire-bristle brush.

IC Remove/Replacement

Some chassis circuit boards have slotted holes (oblong) through which the IC leads are inserted and then bent flat against the circuit foil. When holes are the slotted type, the following technique should be used to remove and replace the IC. When working with boards using the familiar round hole, use the standard technique as outlined in paragraphs 5 and 6 above.

Removal

1. Desolder and straighten each IC lead in one operation by gently prying up on the lead with the soldering iron tip as the solder melts.
2. Draw away the melted solder with an anti-static suction-type solder removal device (or with solder braid) before removing the IC.

Replacement

1. Carefully insert the replacement IC in the circuit board.
2. Carefully bend each IC lead against the circuit foil pad and solder it.
3. Clean the soldered areas with a small wire-bristle brush. (It is not necessary to reapply acrylic coating to the areas).

"Small-Signal" Discrete Transistor

Removal/Replacement

1. Remove the defective transistor by clipping its leads as close as possible to the component body.
2. Bend into a "U" shape the end of each of three leads remaining on the circuit board.
3. Bend into a "U" shape the replacement transistor leads.
4. Connect the replacement transistor leads to the corresponding leads extending from the circuit board and crimp the "U" with long nose pliers to insure metal to metal contact then solder each connection.

Power Output, Transistor Device

Removal/Replacement

1. Heat and remove all solder from around the transistor leads.
2. Remove the heat sink mounting screw (if so equipped).
3. Carefully remove the transistor from the heat sink of the circuit board.
4. Insert new transistor in the circuit board.
5. Solder each transistor lead, and clip off excess lead.
6. Replace heat sink.

Diode Removal/Replacement

1. Remove defective diode by clipping its leads as close as possible to diode body.
2. Bend the two remaining leads perpendicular y to the circuit board.
3. Observing diode polarity, wrap each lead of the new diode around the corresponding lead on the circuit board.
4. Securely crimp each connection and solder it.
5. Inspect (on the circuit board copper side) the solder joints of the two "original" leads. If they are not shiny, reheat them and if necessary, apply additional solder.

Fuse and Conventional Resistor

Removal/Replacement

1. Clip each fuse or resistor lead at top of the circuit board hollow stake.
2. Securely crimp the leads of replacement component around notch at stake top.
3. Solder the connections.

CAUTION: Maintain original spacing between the replaced component and adjacent components and the circuit board to prevent excessive component temperatures.

Circuit Board Foil Repair

Excessive heat applied to the copper foil of any printed circuit board will weaken the adhesive that bonds the foil to the circuit board causing the foil to separate from or "lift-off" the board. The following guidelines and procedures should be followed whenever this condition is encountered.

At IC Connections

To repair a defective copper pattern at IC connections use the following procedure to install a jumper wire on the copper pattern side of the circuit board. (Use this technique only on IC connections).

1. Carefully remove the damaged copper pattern with a sharp knife. (Remove only as much copper as absolutely necessary).
2. Carefully scratch away the solder resist and acrylic coating (if used) from the end of the remaining copper pattern.
3. Bend a small "U" in one end of a small gauge jumper wire and carefully crimp it around the IC pin. Solder the IC connection.
4. Route the jumper wire along the path of the out-away copper pattern and let it overlap the previously scraped end of the good copper pattern. Solder the overlapped area and clip off any excess jumper wire.

At Other Connections

Use the following technique to repair the defective copper pattern at connections other than IC Pins. This technique involves the installation of a jumper wire on the component side of the circuit board.

1. Remove the defective copper pattern with a sharp knife.

Remove at least 1/4 inch of copper, to ensure that a hazardous condition will not exist if the jumper wire opens.

2. Trace along the copper pattern from both sides of the pattern break and locate the nearest component that is directly connected to the affected copper pattern.
3. Connect insulated 20-gauge jumper wire from the lead of the nearest component on one side of the pattern break to the lead of the nearest component on the other side.

Carefully crimp and solder the connections.

CAUTION: Be sure the insulated jumper wire is dressed so the it does not touch components or sharp edges.

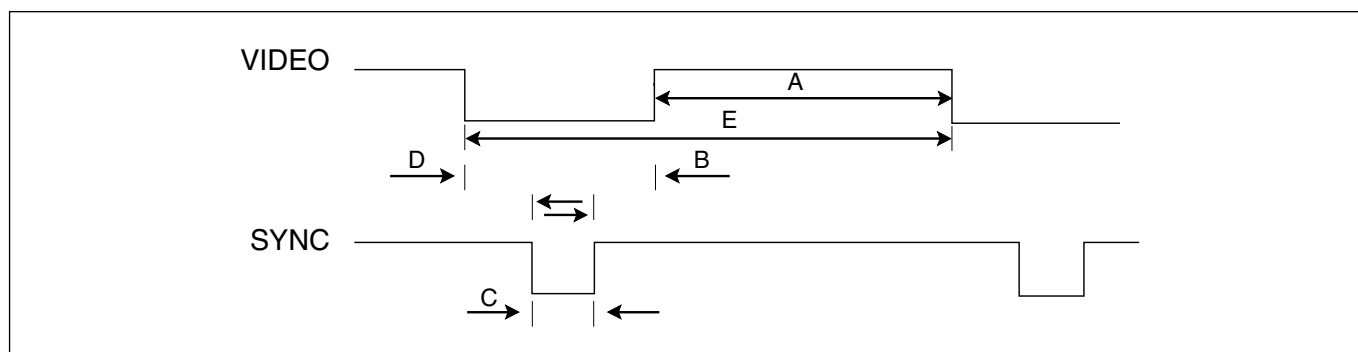
TIMING CHART

HT75W FOR PC

MODE	H / V	Sync Polarity	Dot Clock	Frequency	Total Period(E)	Display (A)	Front Porch (B)	Sync Duration (D)	Back Porch (F)	Resolution
1	H(Pixels)	+	31.500	37.861	832	640	32	64	96	640 x 350
	V(Lines)	-		85.080	445	350	32	3	60	
2	H(Pixels)	-	31.500	37.861	832	640	32	64	96	640 X 400
	V(Lines)	+		85.080	445	400	1	3	41	
3	H(Pixels)	-	25.175	31.469	800	640	16	96	48	640 x 480
	V(Lines)	-		59.94	525	480	10	2	33	
4	H(Pixels)	-	31.5	37.861	832	640	24	40	128	640 x 480
	V(Lines)	-		72.809	520	480	9	3	28	
5	H(Pixels)	-	31.5	37.5	840	640	16	64	120	640 x 480
	V(Lines)	-		75.0	500	480	1	3	16	
6	H(Pixels)	-	36.0	43.269	832	640	56	56	80	640 x 480
	V(Lines)	-		85.008	509	480	1	3	25	
7	H(Pixels)	-	31.505	35.162	896	720	34	40	102	720 x 480
	V(Lines)	-		59.901	587	480	12	2	93	
8	H(Pixels)	-	28.350	31.5	900	720	18	108	54	720 x 400
	V(Lines)	+		70.156	449	400	12	3	34	
9	H(Pixels)	-	35.5	37.927	936	720	36	72	108	720x 400
	V(Lines)	+		85.039	446	400	1	3	42	
10	H(Pixels)	+	40.000	37.879	1056	800	40	128	88	800 x 600
	V(Lines)	+		60.317	628	600	1	4	23	
11	H(Pixels)	+	50.000	48.077	1040	800	56	120	64	800 x 600
	V(Lines)	+		72.188	666	600	37	6	23	
12	H(Pixels)	+	49.5	46.875	1056	800	16	80	160	800 x 600
	V(Lines)	+		75.000	625	600	1	3	21	
13	H(Pixels)	+	56.250	53.674	1048	800	32	64	152	800 x 600
	V(Lines)	+		85.061	631	600	1	3	27	
14	H(Pixels)	-	56.750	53.741	1056	800	48	80	128	800 x 600
	V(Lines)	+		84.898	633	600	3	4	26	
15	H(Pixels)	-	57.285	49.727	1152	832	32	64	224	832 X 624
	V(Lines)	-		74.553	667	624	3	3	37	
16	H(Pixels)	-	65.0	48.363	1344	1024	24	136	160	1024x 768
	V(Lines)	-		60.004	806	768	3	6	29	
17	H(Pixels)	-	75.00	56.476	1328	1024	24	136	144	1024 x 768
	V(Lines)	-		70.069	806	768	3	6	29	
18	H(Pixels)	+	78.75	60.023	1312	1024	16	96	176	1024 x 768
	V(Lines)	+		75.029	800	768	1	3	28	
19	H(Pixels)	-	80.000	60.241	1328	1024	32	96	176	1024 x 768
	V(Lines)	-		74.927	804	768	3	3	30	
20	H(Pixels)	+	94.500	68.677	1376	1024	48	96	208	1024 x 768
	V(Lines)	+		84.997	808	768	1	3	36	
21	H(Pixels)	-	94.5	68.677	1376	1024	72	104	176	1024 X 768
	V(Lines)	+		84.892	809	768	3	4	34	
22	H(Pixels)	+	46.2	31.216	1480	1170	37	129	144	1170 X 584
	V(Lines)	+		50.026	624	584	3	3	34	
23	H(Pixels)	+	68.250	47.396	1440	1280	48	32	80	1280 X 768
	V(Lines)	-		59.995	790	768	3	7	12	

HT95 FOR PC

MODE	H / V	Sync Polarity	Dot Clock	Frequency	Total Period(E)	Display (A)	Front Porch (B)	Sync Duration (D)	Back Porch (F)	Resolution
1	H(Pixels)	-	25.175	31.469	800	640	16	96	48	640 x 480
	V(Lines)	-		59.940	525	480	10	2	33	
2	H(Pixels)	-	30.240	35.000	864	640	64	64	96	640 X 480
	V(Lines)	-		66.667	525	480	3	3	39	
3	H(Pixels)	-	31.500	37.50	840	640	16	64	120	640 x 480
	V(Lines)	-		75.000	500	480	1	3	16	
4	H(Pixels)	-	36.000	43.269	832	640	56	56	80	640 x 480
	V(Lines)	-		85.008	509	480	1	3	25	
5	H(Pixels)	-	28.350	31.500	900	720	18	108	54	720 x 400
	V(Lines)	+		70.156	449	400	12	3	34	
6	H(Pixels)	-	31.505	35.162	896	720	34	40	102	720 x 480
	V(Lines)	-		59.901	587	480	12	2	93	
7	H(Pixels)	+	36.000	35.156	1024	800	24	72	128	800 x 600
	V(Lines)	+		56.250	625	600	1	2	22	
8	H(Pixels)	+	40.000	37.879	1056	800	40	128	88	800 x 600
	V(Lines)	+		60.317	628	600	1	4	23	
9	H(Pixels)	+	50.000	48.077	1040	800	56	120	64	800 x 600
	V(Lines)	+		72.188	666	600	37	6	23	
10	H(Pixels)	+	49.500	46.875	1056	800	16	80	160	800 x 600
	V(Lines)	+		75.000	625	600	1	3	21	
11	H(Pixels)	+	56.250	53.674	1048	800	32	64	152	800 x 600
	V(Lines)	+		85.051	631	600	1	3	27	
12	H(Pixels)	-	57.285	49.727	1152	832	32	64	224	832 x 624
	V(Lines)	-		74.553	667	624	3	3	37	
13	H(Pixels)	-	65.000	48.363	1344	1024	24	136	160	1024 x 768
	V(Lines)	-		60.004	806	768	3	6	29	
14	H(Pixels)	-	75.000	56.476	1328	1024	24	136	144	1024 x 768
	V(Lines)	-		70.069	806	768	3	6	29	
15	H(Pixels)	+	78.750	60.023	1312	1024	16	96	176	1024 x 768
	V(Lines)	+		75.029	800	768	1	3	28	
16	H(Pixels)	-	80.000	60.241	1328	1024	32	96	176	1024 x 768
	V(Lines)	-		74.927	804	768	3	3	30	
17	H(Pixels)	+	94.500	68.677	1376	1024	48	96	208	1024 x 768
	V(Lines)	+		84.997	808	768	1	3	36	
18	H(Pixels)	-	100.00	68.681	1456	1152	32	128	144	1152 x 870
	V(Lines)	-		75.062	915	870	3	3	39	
19	H(Pixels)	-	92.940	61.795	1504	1152	30	128	194	1152 x 900
	V(Lines)	-		65.950	937	900	2	4	31	
20	H(Pixels)	-	105.59	71.732	1472	1152	16	96	208	1152 x 900
	V(Lines)	-		76.068	943	900	2	8	33	
21	H(Pixels)	+	108.00	60.000	1800	1280	96	112	312	1280 x 960
	V(Lines)	+		60.000	1000	960	1	3	36	
22	H(Pixels)	+	148.500	85.938	1728	1280	64	160	224	1200 x 960
	V(Lines)	+		85.002	1011	960	1	3	47	
23	H(Pixels)	+	108.00	63.981	1688	1280	48	112	248	1280 x 1024
	V(Lines)	+		60.020	1066	1024	1	3	38	
24	H(Pixels)	+	135.000	79.976	1688	1280	16	144	248	1280 x 1024
	V(Lines)	+		75.025	1066	1024	1	3	38	
25	H(Pixels)	+	157.500	91.146	1728	1280	64	160	224	1280 x 1024
	V(Lines)	+		85.024	1072	1024	1	3	44	

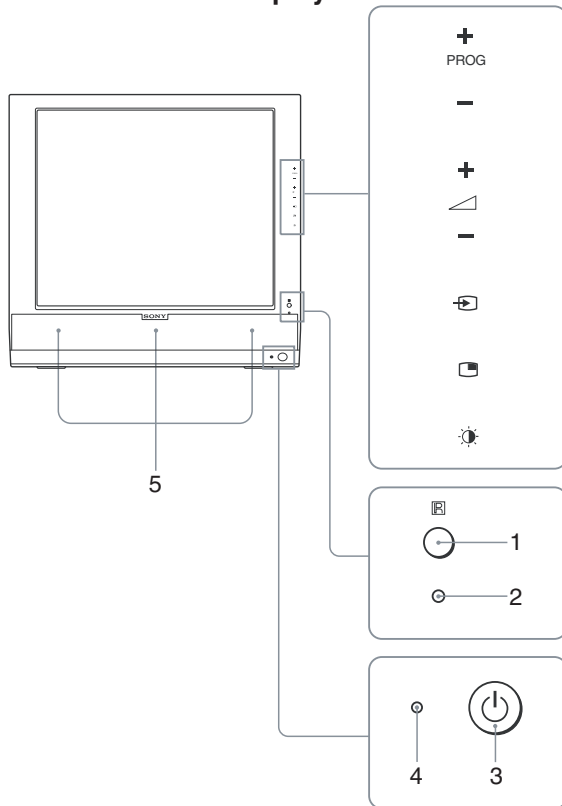


HT75W / HT95 FOR VIDEO

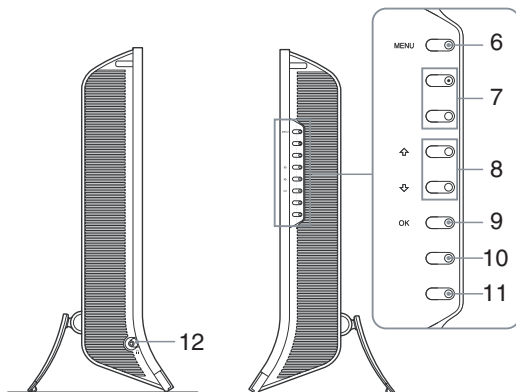
MODE	H / V	Sync Polarity	Dot Clock	Frequency	Total Period(E)	Display (A)	Front Porch (B)	Sync Duration (D)	Back Porch (F)	Resolution
1	H(Pixels)	-	13.500	15.734	858	720	19	62	57	720 x 480
	V(Lines)	-		29.97	525	480	4	3	38	
2	H(Pixels)	-	13.500	15.625	864	720	12	63	69	720 X 576
	V(Lines)	-		25.000	625	576	2	3	44	
3	H(Pixels)	-	27.000	31.542	856	720	16	64	56	720 x 480
	V(Lines)	-		60.080	525	480	9	6	30	
4	H(Pixels)	-	27,000	31.250	864	720	12	64	68	720 x 576
	V(Lines)	-		50.000	625	576	5	5	39	
5	H(Pixels)	-	74.250	28.125	2640	1920	528	44	148	1920 x 1080
	V(Lines)	-		25.00	1125	1080	2	5	38	
6	H(Pixels)	-	74.250	33.750	2200	1920	44	44	192	1920 x 517
	V(Lines)	-		60.053	562	517	5	5	35	
7	H(Pixels)	-	74.250	33.750	2200	1920	44	44	192	1920 x 5400
	V(Lines)	-		60.053	562	540	2	5	15	
8	H(Pixels)	-	74.250	45.000	1650	1280	60	40	270	1280 x 720
	V(Lines)	-		60.000	750	720	5	5	20	

OPERATING INSTRUCTIONS

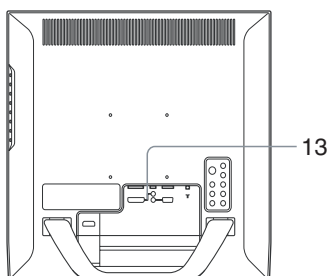
Front of the LCD Display



Side view of the LCD Display



Rear of the LCD Display



1. Remote control sensor

This sensor receives a signal from the remote control. Be sure not to cover the sensor with papers, etc.

2. Light sensor

This sensor measures the brightness of the surrounding area. Be sure not to cover the sensor with papers, etc.

3. ⏻ (power) switch

Press to turn the display on or off.

4. ⏻ (power) indicator

The power indicator lights up in green when the display is turned on, and lights up in orange when the display is in the power saving mode. Also, the power indicator lights up in red when the display is in the standby mode or the Sleep timer is activated.

5. Stereo speakers

These speakers output the audio signals as sound.

6. MENU button

Press to turn the menu screen on and off.

7. PROG+/- buttons

Press to change the TV channel.

8. ⬆/⬆ and ⬆/+/- (volume control) buttons

Use to select the menu items and to make adjustments, and also display the "Volume" adjustment bar to control the volume.

9. ⏻ (input select)/OK button

This button functions in two ways.

As the ⏻ button, this button switches the input signal between PC 1, PC 2, TV, VIDEO 1, and VIDEO 2 when two computers and two pieces of video equipment are connected. As the OK button, this button activates the selected menu item or adjustments made using the ⬆/⬆ buttons 8.

10. 🖼️ (PinP) button

Press to switch the "PIP" (Picture In Picture) setting. Each time you press this button, the PIP setting changes as follows.

PIP On → PIP Off → PIP On...

11. 🌞 (Picture Mode) button

Press to switch the Picture Mode.

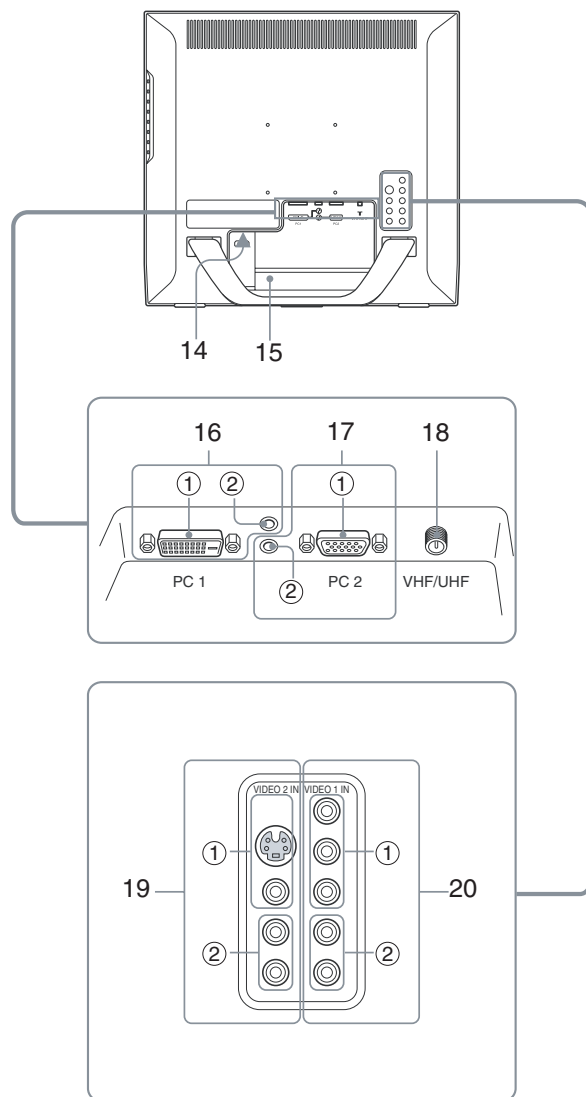
12. Headphones jack

This jack outputs audio signals to the headphones.

13. Connector cover

Remove this cover when you connect cables or cords.

Rear of the LCD Display



14. AC IN connector

This connector connects the mains lead (supplied).

15. Security Lock Hole

The security lock hole should be used with the Kensington Micro Saver Security System. Micro Saver Security System is a trademark of Kensington.

16. PC 1 connectors

16-1 DVI-D input connector (digital RGB) for PC 1

: This connector inputs digital RGB video signals that comply with DVI Rev.1.0.

16-2 Audio input jack for PC 1

: This jack inputs audio signals when connected to the audio output jack of a computer or other equipment connected to PC 1.

17. PC 2 connectors

17-1 HD15 input connector (analog RGB) for PC 2

: This connector inputs analog RGB video signals (0.700 Vp-p, positive) and sync signals.

17-2 Audio input jack for PC 2

: This jack inputs audio signals when connected to the audio output jack of a computer or other equipment connected to PC 2.

18. VHF/UHF jack

This jack inputs a signal from an aerial.

19. VIDEO 2 jacks

19-1 Composite/S video input jacks for VIDEO 2

: These jacks input composite video or S video signals. When you connect video equipment to both composite video input and S video input jacks, the signal from the S video jack is displayed.

19-2 Audio input jacks for VIDEO 2

: These jacks input audio signals when connected to the audio output jacks of a VCR or other equipment connected to VIDEO 2.

20. VIDEO 1 jacks

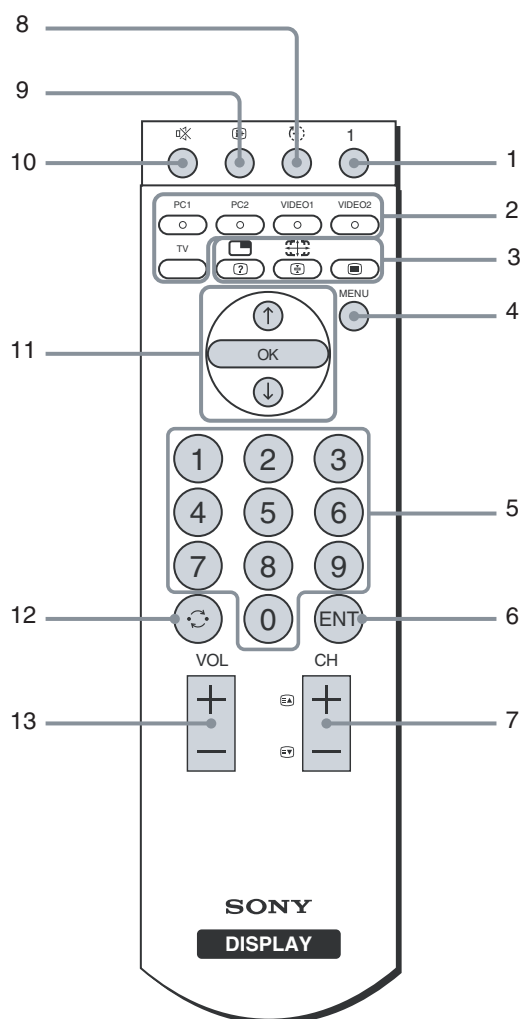
20-1 Y/P_B/P_R Component Video input jacks for VIDEO 1

: These jacks input Y/P_B/P_R Component Video signals (Y/C_B/C_R, Y/B-Y/R-Y, or Y/P_B/P_R).

20-2 Audio input jacks for VIDEO 1

: These jacks input audio signals when connected to the audio output jacks of a DVD player or other equipment connected to VIDEO 1.

Remote control



1. (power) switch

Press to turn the display on or off.

2. Input select buttons

- PC 1** : Press to select a signal input through the PC 1 connectors (DVI-D) on the rear. In the Teletext mode, press to select red option.
- PC 2** : Press to select a signal input through the PC 2 connectors (HD15) on the rear. In the Teletext mode, press to select green option.
- VIDEO 1** : Press to select a signal input through the VIDEO 1 jacks (Y/P_B/P_R Component) on the rear. In the Teletext mode, press to select yellow option.
- VIDEO 2** : Press to select a signal input through the VIDEO 2 jacks (composite/S video) on the rear. In the Teletext mode, press to select blue option.
- TV** : Press to select the TV input.

3. Feature buttons

(PinP) / (reveal/conceal) :

Press repeatedly to step through the "PIP" settings. In the Teletext mode, press to reveal concealed information. Press it again to concealed information. Press it again to

(Zoom) / (page hold)

Press repeatedly to step through the "Zoom" settings. In the Teletext mode, press to freeze a sub page which follows on automatically. Press it again to cancel the freeze.

(Teletext)

Press to turn on or off the Teletext mode.

4. MENU button

Press to turn the menu screen on and off.

5. 0-9 buttons

Use these buttons to input numbers.

6. ENT (enter) button

Press to confirm the numbers you input using the 0-9 buttons.

7. PROG +/- ((page advance) / (page reverse)) buttons

Press to change the TV channel. In the Teletext mode, press to access the next or preceding page.

8. (sleep) button

Press repeatedly to set the display to turn off automatically after a specified period of time. If you use this function and set the Sleep timer, the (power) indicator lights up in red.

9. (display) button

Press once to display the current channel number. The channel number displayed will remain until you press this button again.

10. (muting) button

Press to turn the sound off. Press again or press the + button to restore the sound.

11. and OK buttons

Use the buttons to select menu items and make adjustments. Press the OK button to activate the selected menu item and adjustments made using the buttons.

12. (jump) button

Press to switch the TV channel between the current one and the last one that was selected using the 0-9 buttons.

13. +/- buttons

Press to adjust the sound volume.

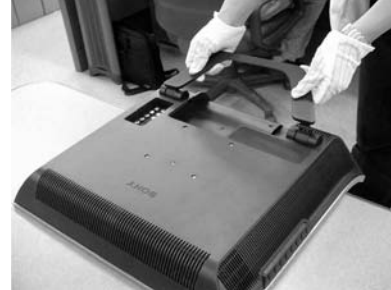
DISASSEMBLY

REAR CABINET REMOVAL.

- 1) Please remove Screws which are between Hinge and Stand support like picture.



- 2) Please pull the Stand support at the Hinge, then Stand support will be departed.



- 3) Please remove the screw cover at the Back cabinet, then screw cover will be departed.



- 4) Please lift the left side edge of under Back cabinet with fingertip like picture, then latch will be departed.



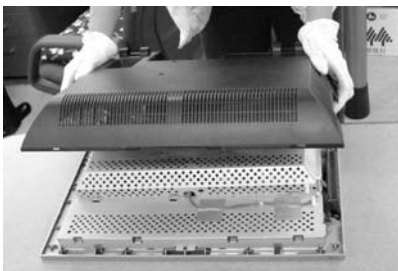
- 5) Please lift the right side of under Back cabinet with fingertip like picture, then latch will be departed.



- 6) Please pull the left side of Back cabinet like picture then latch will be departed.



- 7) Please pull the upper side of Back cabinet like picture then latch will be departed.

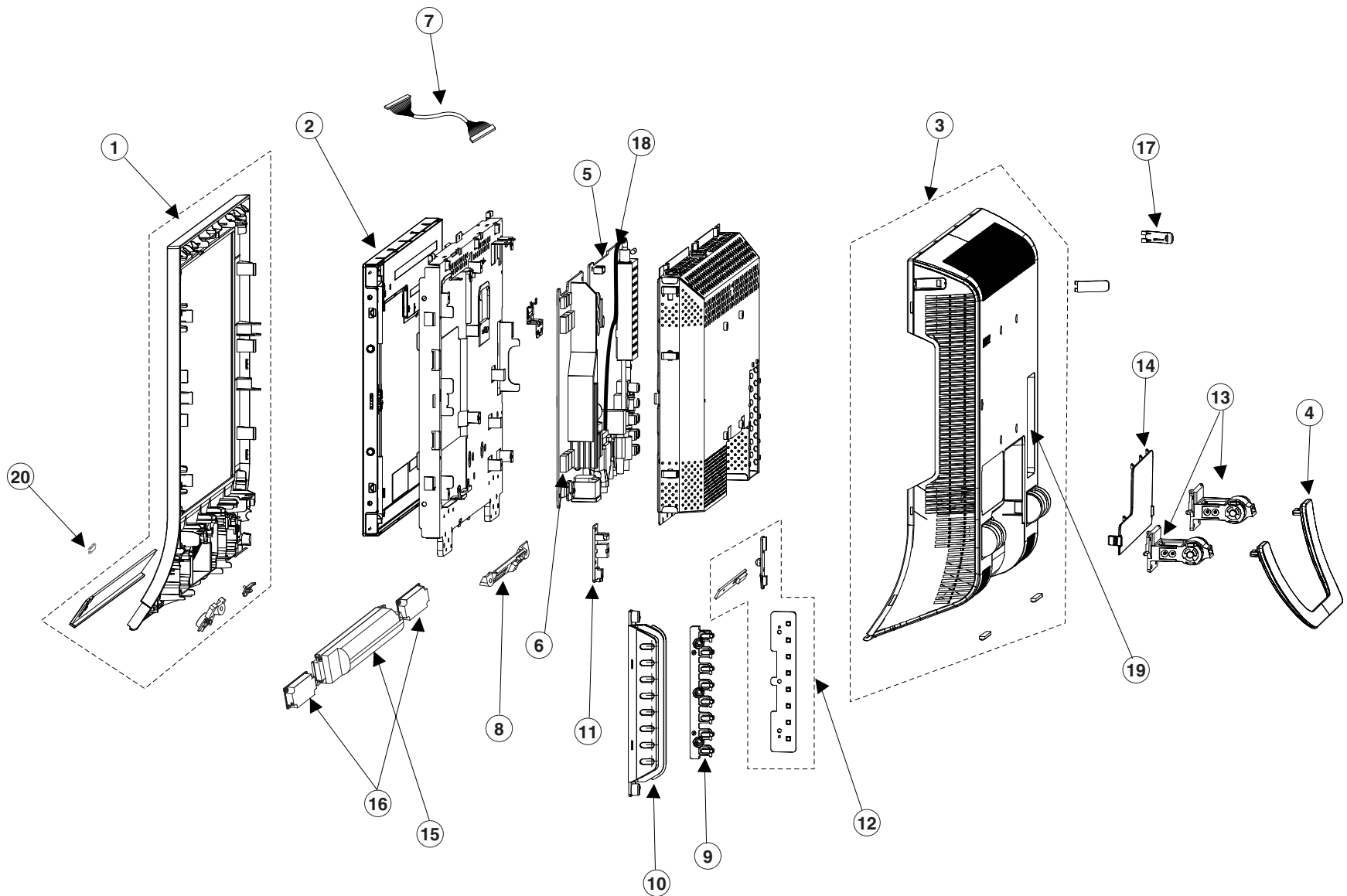


SERVICE OSD

To enter service OSD menu,

- 1) Turn off the power switch button.
- 2) Press $\triangleleft -$, and then power key.
- 3) Shows the service OSD menu. That menu is located in down side of main menu.
- 4) The service OSD menu contains additional menus as described below.
 - A) ADC CALBRATION : Adjust the offset voltage and gain value in PC mode.
 - B) VIDEO CALBRATION : Adjust the offset voltage and gain value in video input.
 - C) COLOR TEMP : Adjust R/G/B color values of contrast and brightness in 9300k,6500k,user color mode.
 - D) AGING : Select aging mode.(on/off)
 - E) CLEAR ETI : Initilize the used time of MFT
 - F) CLEAR EEPROM : Initilize the EDID DATA at DDC2B EEPROM is saved system memory.
Process : Press ok button, and then power key.
 - G) DEFAULT TIMING1 : Select the resolution timing of the signal.
Menu is 1152 x 864(VESA standard timing) 1152x870(MAC computer timing)
 - H) DEFAULT TIMING2 : Select the resolution timing of the signal.
Menu is 1080i(video timing) and 1035i.
 - I) LIGHT SENSOR : When ECO Auto mode, the BACKLIGHT is changed as Light sensor input
X : Light Sensor input, Y : Backlight Value Setting.
 - J) VCTi DEBUG : VCTi can be sett on DEBUG on/off, when you want to controll anything.

EXPLODED VIEW



EXPLODED VIEW PARTS LIST

MFM-HT75W

Ref. No.	Part No.	Description
1	X-2048-967-1	BEZEL ASSY (U/C)
	X-2048-975-1	BEZEL ASSY (AEP)
	X-2048-972-1	BEZEL ASSY (GE)
2	1-805-812-11	LCD Panel (M170XW01_V2)
3	X-2048-968-1	CABINET ASSY (U/C, AEP, GE)
4	X-2048-970-1	STAND ASSY
5	1-789-156-11	Mounted PWB, A (Main) (for USA)
	1-789-156-21	Mounted PWB, A (Main) (for ASIA)
	1-789-156-31	Mounted PWB, A (Main) (for EURO)
6	1-789-161-11	Mounted PWB, G (Power/Inverter)
7	1-910-012-98	Connector Assy
8	2-582-794-01	PW BUTTON PCB BRACKET
9	2-582-787-01	TACT CONTROL KNOB
10	2-582-788-01	KNOB CONTROL BRACKET
11	1-789-157-11	Mounted PWB, H3 (Head Phone)
12	1-789-158-11	Mounted PWB, H1 (Function), J (Switch), H2 (Sensor)
13	X-2048-971-1	HINGE ASSY (17)
14	2-582-782-01	DOOR
15	1-826-024-11	SPEAKER UNIT (WOOFER)
16	1-826-034-11	SPEAKER UNIT (SIDE)
17	2-582-783-01	SCREW COVER
18	1-830-333-11	PIN CABLE (U/C)
	1-830-385-11	PIN CABLE (AEP, GE)
19	2-582-796-01	VIDEO INPUT LABEL (U/C)
	2-582-796-11	VIDEO INPUT LABEL (AEP, GE)
20	4-095-701-11	SONY BADGE (No.5.5)
ACCESSORIES & PACKING MATERIALS		
21	1-479-112-11	REMOTE COMMANDER (U/C)
	1-479-111-11	REMOTE COMMANDER (AEP, GE)
22	1-827-118-11	POWER SUPPLY CORD SET (U/C)
	1-827-120-11	POWER SUPPLY CORD SET (AEP, GE)
23	1-827-757-11	D-SUB CABLE
24	1-827-758-11	DVI CABLE
25	1-827-759-11	AUDIO CABLE
26	1-830-439-11	CONNECTION CABLE (Scart Cable) (AEP, GE)
27	1-830-332-11	CONNECTION CORD (Antenna Cable) (U/C)
	1-830-424-11	CONNECTION CORD (Antenna Cable) (AEP, GE)
28	4-102-356-21	CD-ROM
29	2-345-278-01	QUICK SETUP GUIDE (U/C)
	2-345-278-11	QUICK SETUP GUIDE (AEP)
	2-345-278-21	QUICK SETUP GUIDE (GE)

EXPLODED VIEW PARTS LIST

MFM-HT95

Ref. No.	SONY Part No.	SONY name
1	X-2048-978-1	BEZEL ASSY (U/C)
	X-2048-985-1	BEZEL ASSY (AEP)
	X-2048-982-1	BEZEL ASSY (GE)
2	1-805-811-11	LCD Panel (FLC48SXC8V-12A)
3	X-2048-979-1	CABINET ASSY (U/C, AEP, GE)
4	X-2048-970-1	STAND ASSY
5	1-789-156-51	Mounted PWB, A (Main) (for USA)
	1-789-156-61	Mounted PWB, A (Main) (for ASIA)
	1-789-156-71	Mounted PWB, A (Main) (for EURO)
6	1-789-155-11	Mounted PWB, G (Power/Inverter)
7	1-900-275-71	Connector Assy
8	2-582-794-01	PW BUTTON PCB BRACKET
9	2-582-787-01	TACT CONTROL KNOB
10	2-582-788-01	KNOB CONTROL BRACKET
11	1-789-157-11	Mounted PWB, H3 (Head Phone)
12	1-789-159-11	Mounted PWB, H1 (Function), J (Switch), H2 (Sensor)
13	X-2048-987-1	HINGE ASSY (19)
14	2-582-782-01	DOOR
15	1-826-024-11	SPEAKER UNIT (WOOFER)
16	1-826-034-11	SPEAKER UNIT (TWEETER)
17	2-582-783-01	SCREW COVER
18	1-830-333-11	PIN CABLE (U/C)
	1-830-385-11	PIN CABLE (AEP, GE)
19	2-582-796-01	VIDEO INPUT LABEL (U/C)
	2-582-796-11	VIDEO INPUT LABEL (AEP, GE)
20	4-095-701-11	SONY BADGE (No.5.5)
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	2-345-278-11	QUICK SETUP GUIDE (AEP)
	2-345-278-21	QUICK SETUP GUIDE (GE)

